

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

100011

22/F, Great Eagle Centre, 23 Harbour  
Road, Wanchai, HONG KONG, P.R. China  
CHINA PATENT AGENT(H.K.)LTD

# PCT

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43 *bis*.1)

Date of mailing

~~15~~ JUN 2006 (15.06.2006)

Applicant's or agent's file reference

FPEL05150061

**FOR FURTHER ACTION**

see paragraph 2 below

International application No.

PCT/CN2005/001975

International filing date (*day/month/year*)

22.Nov 2005(22.11.2005)

Priority date (*day/month/year*)

International Patent Classification (IPC) or both national classification and IPC

G06F5/00(2006.01)i

Applicant

INTEL CORPORATION et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/CN  
The State Intellectual Property Office, the  
P.R.China 6 Xitucheng Rd., Jimen Bridge,  
Haidian District, Beijing, China 100088  
Facsimile No. 86-10-62019451

Date of completion of this opinion

22.May 2006(22.05.2006)

Authorized officer

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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/CN2005/001975

**Box No. I Basis of the opinion**

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed  
☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing  
☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper  
☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed  
☐ filed together with the international application in electronic form  
☐ furnished subsequently to this Authority for the purposes of search

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/CN2005/001975

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement:**

Novelty (N)	Claims 1-20	YES
	Claims	NO
Inventive step (IS)	Claims 1-20	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-20	YES
	Claims	NO

**2. Citations and explanations**

(1) The documents cited in the search report have been taken into consideration here:

D1: CN1509440A

D2: EP686920A2

D3: EP0499890A2

(2) D1 discloses an elastic first-in, first-out (FIFO) buffer which is arranged in each serial lane which connects a logic layer to a transmission medium, to correct fluctuations in the transmission medium and to alter frequency of signals being processed along the serial lane. For providing communication between transmission medium and processor in byte-stripped parallel-serial infiniband network. Due to the decrease in the number of buffers within the core logic, the power consumption of the core logic is reduced, the processing speed of the core logic is increased and the chip area of the core logic is decreased.

D2 discloses a system for converting between parallel data and serial data. In the system, individual bits of the parallel data are latched into individual registers. Each register is coupled to a corresponding AND gate which is also connected to receive phased clock signals. The output terminals of the AND gates are connected to an OR gate. Using the system, with appropriately phased clocks, the parallel data is converted into serial data.

D3 discloses a data interface which is to be produced for conversion between bit-parallel and word-serial data patterns and bit-serial and word-parallel data patterns in conjunction with a parallel computer, in order to accelerate the input and output of data. For this purpose, a three-dimensionally organised data memory (66) with three-dimensional addressing is connected upstream and/or downstream from the parallel processor, in which addressing each address is formed from three components, of which a first component (x) indicates the significance of a bit in a word, the second component (y) the serial number of the word in a string of words and the third component (z) the serial number of the string to which the word belongs. A switching network is allocated to the data memory in order to control the latter. An incoming bit-parallel and word-serial formatted data stream can be temporarily stored in the data memory, where the data from the data memory (66) can be switched as a bit-serial and word-parallel data pattern in the form of "bit levels" (26) with identical bit addresses to a parallel processor (76), and/or a bit-serial and word-parallel data stream organised as a string of "bit levels" which is supplied by the parallel processor (76) can be temporarily stored, where the data can be output as a bit-parallel and word-serial data pattern.

It is obvious that not all the technical features in claims 1-20 are disclosed by D1, D2 or D3, and further the technical solutions claimed are not obvious to a person skilled on the basis of D1, D2, D3 or their combination. Thus, claims 1-20 have novelty under PCT Article 33(2), and have inventive step under PCT Article 33(3);

Claims 1-20 have industrial applicability under PCT Article 33(4), because the technical scheme claimed can be made or used in the industry.